

# THE USE OF A DIRECTED ACYCLIC ORGANIZATION STRUCTURE FOR SELECTION AND EXECUTION OF CONSISTENT SUBSETS OF REWRITE RULES

## Abstract

The present invention discloses the use of a hand-held calculator programmed to teach subject matter such as mathematics in a manner that emulates traditional step-by-step teacher-student teaching methods and shows the important intermediate steps. The method evaluates a selected problem against a master set of possible operations, organized according to a hierarchy that can be applied to the problem and then provides choices of several operations that are applicable or can operate on a selected problem. Importantly, the choices available to the student will not always lead to a solution or simplification of the problem. This allows the student to see the effect of a good choice, as well as a poor choice. If the problem can be operated on further, the results of the previous operations have a new problem or expression to be solved. This repetitive process continues until there are no further operations possible that will move the problem closer to a final solution.